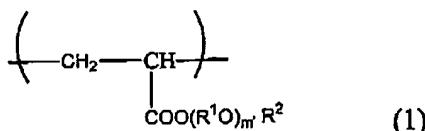


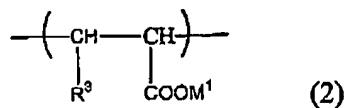
## Listing of Claims

This listing of claims replaces all prior listings and versions of the claims.

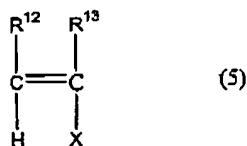
1. (Previously Presented) A polycarboxylic acid cement dispersant which provides a cement composition having a penetrating resistance value exponent of 55 MPa or more and a slump retention exponent of 80% or more, wherein the polycarboxylic acid cement dispersant comprises a polycarboxylic acid polymer having a polyoxyalkylene ester constituent unit (I) represented by the following general formula (1):



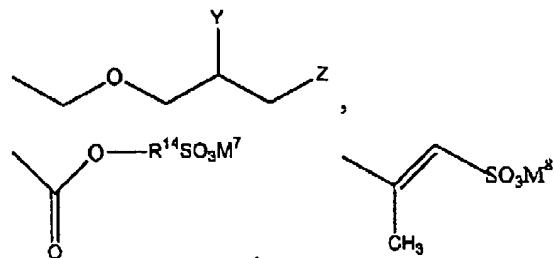
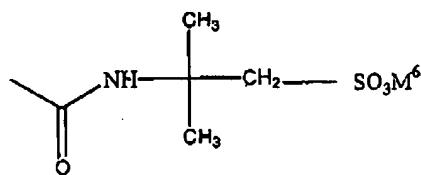
wherein  $\text{R}^1\text{O}$  may be the same or different and each represents an oxyalkylene group containing 2 to 18 carbon atoms;  $m^1$  represents the average molar number of addition of the oxyalkylene groups and is a number of 100 to 200; and  $\text{R}^2$  represents a hydrogen atom or a hydrocarbon group containing 1 to 3 atoms, and a carboxylic acid constituent unit (II) represented by the following general formula (2):



wherein  $\text{R}^3$  represents a hydrogen atom, a methyl group or  $-\text{COOM}^2$ ; and  $\text{M}^1$  and  $\text{M}^2$  may be the same or different and each represents a hydrogen atom, a monovalent metal, a divalent metal, ammonium or organic ammonium, wherein the polycarboxylic acid cement dispersant is obtained by copolymerizing the monomer components further comprising a sulfonic acid group-containing monomer represented by the following general formula (5):



X:



wherein R<sup>12</sup> and R<sup>13</sup> may be the same or different and each represents a hydrogen atom or a methyl group; Y and Z represent a hydroxyl group or -SO<sub>3</sub>M<sup>9</sup>, wherein in the case when Y represents a hydroxyl group, Z represents -SO<sub>3</sub>M<sup>9</sup>, while in the case when Y represents -SO<sub>3</sub>M<sup>9</sup>, Z represents a hydroxyl group; R<sup>14</sup> represents an alkylene group containing 2 to 4 carbon atoms; and M<sup>6</sup>, M<sup>7</sup>, M<sup>8</sup> and M<sup>9</sup> may be the same or different and each represents a hydrogen atom, a monovalent metal, a divalent metal, ammonium or organic ammonium.

2. (Canceled)

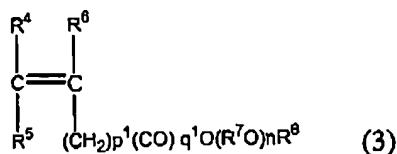
3. (Previously Presented) A method of producing a concrete product which comprises adding the polycarboxylic acid cement dispersant according to claim 1 to the concrete product and curing under a condition of a temperature of 30°C or more.

4. (Canceled)

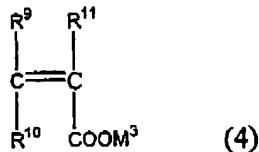
5. (Previously Presented) A method of producing a concrete product which comprises adding the polycarboxylic acid cement dispersant according to claim 1 curing by covering a periphery of a formwork with an insulating material.

6. (Canceled)

7. (Withdrawn) A method of producing a concrete product which makes use of a copolymer derived by using monomer components comprising a monomer (A) represented by the following general formula (3):

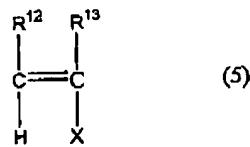


(wherein  $\text{R}^4$ ,  $\text{R}^5$  and  $\text{R}^6$  may be the same or different and each represents a hydrogen atom or a methyl group;  $\text{p}^1$  represents a number of 0 to 2;  $\text{q}^1$  represents a number of 0 or 1;  $\text{R}^7\text{O}$  may be the same or different and each represents an oxyalkylene group containing 2 to 18 carbon atoms;  $\text{n}$  represents the average molar number of addition of the oxyalkylene groups and is a number of 2 to 300; and  $\text{R}^8$  represents a hydrogen atom or a hydrocarbon group containing 1 to 30 carbon atoms), monomer (B) represented by the following general formula (4)



(wherein  $\text{R}^9$  and  $\text{R}^{10}$  may be the same or different and each represents a hydrogen atom, a methyl group or  $-\text{COOM}^4$ , provided that  $\text{R}^9$  and  $\text{R}^{10}$  does not simultaneously represent  $-\text{COOM}^4$ ;  $\text{R}^{11}$  represents a hydrogen atom, a methyl group or  $\text{CH}_2\text{COOM}^5$ ,  $\text{R}^9$  and  $\text{R}^{10}$  may be the same or different and each represents a hydrogen atom or a methyl group; and  $\text{M}^3$ ,  $\text{M}^4$  and  $\text{M}^5$  may be the same or different and each represents a hydrogen atom, a monovalent metal, a divalent metal, ammonium or organic ammonium), and

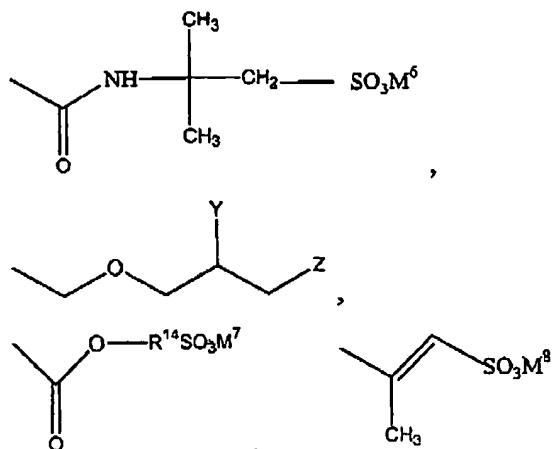
a monomer (C) represented by the following general formula (5):



X:

Application No.: 10/820,798

Docket No.: 21581-00320-US1



(wherein R<sup>12</sup> and R<sup>13</sup> may be the same or different and each represents a hydrogen atom or a methyl group; Y and Z represent a hydroxyl group or -SO<sub>3</sub>M<sup>9</sup>, in which in the case where Y represents a hydroxyl group, Z represents -SO<sub>3</sub>M<sup>9</sup>, while in the case where Y represents -SO<sub>3</sub>M<sup>9</sup>, Z represents a hydroxyl group; R<sup>14</sup> represents an alkylene group